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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Atty. Docket: 8266-0823

Applicant: Eckstein, et al.

Invention: HYDRAULIC CONTROL
APPARATUS FOR A
HOSPITAL BED

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Angelina J. Whitlock

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PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Preliminary to the examination of the above-identified patent application submitted herewith, applicant respectfully requests entry of the following amendment.

IN THE CLAIMS

Please cancel claims 1-20.

Please add new claims 1-19 as follows:

1. A valve assembly for a hospital bed, including:
a manifold having an inlet, an outlet connected to a device for positioning the bed, and a conduit in fluid communication with the inlet and the outlet;
a valve having a portion movable within the conduit between a first position inhibiting fluid communication between the inlet and the outlet, and a second position permitting fluid communication between the inlet and the outlet;
a lever connected to the valve to permit manual movement of the valve between the first and the second positions, the lever being located entirely outside the conduit; and

a solenoid connected directly to the valve to move the valve between the first and second positions independent of the lever in response to an electrical input to the solenoid.

2. The assembly of claim 1, further including a lock engaging the lever to lock the lever in a position having the valve in the second position.

3. The assembly of claim 2 wherein the lock includes a lock solenoid and a lock bar coupled to the lock solenoid, the lock bar engaging the lever, and the lock solenoid being operable to move the lock bar in response to an electrical input to the lock solenoid.

4. The assembly of claim 2 wherein the lock includes a lock bar movable into and out of engagement with the lever and a lock solenoid coupled to the lock bar, the lock solenoid being operable to move the lock bar relative to the lever.

5. The assembly of claim 1 wherein the lever is pivotally coupled to the manifold.

6. The assembly of claim 1 wherein the solenoid is positioned between the manifold and the lever.

7. The assembly of claim 1 wherein the valve includes a stem, the lever includes an opening, and a part of the stem is received in the opening.

8. A controller for a hospital bed having a frame and a support section vertically movable relative to the frame for supporting a patient, the controller including:

a cylinder having a housing and a piston for moving the support section relative to the frame;

a supply path providing fluid communication between a fluid supply and the cylinder;

a supply valve in the supply path operated by a first solenoid for selectively interrupting the fluid communication through the supply path, the supply valve having a manual override;

an electrical supply actuator connected to the first solenoid to electrically actuate the first solenoid to control the interruption of the fluid communication through the supply path; and

a manual actuator connected to the manual override to manually control the interruption of the fluid communication through the supply path, the manual actuator having a

first setting wherein the fluid communication is uninterrupted and a second setting wherein the fluid communication is interrupted.

9. The controller of claim 8 further including an electrically actuated setting remover coupled to the electrical supply actuator to remove a setting of the manual actuator upon electrical actuation of the first solenoid.

10. The controller of claim 8 further including a return path providing fluid communication between the fluid supply and the cylinder, a return valve operated by a return solenoid for selectively interrupting the fluid communication through the return path, the return valve having a manual override, and an electrical control including the electrical supply actuator and an electrical return actuator connected to the return solenoid to control the interruption of the fluid communication through the return path, wherein the manual actuator is connected to the return valve manual override to manually control the interruption of the fluid communication through the return path.

11. A valve assembly for a hospital bed, including:
a supply member having an interrupt position interrupting a supply path providing fluid to a device for positioning the bed;
a return member having an interrupt position interrupting a return path returning fluid from the positioning device;
a first actuator to position the supply and return members, the first actuator having a supply state wherein the return member is in the interrupt position, a return state wherein the supply member is in the interrupt position, and a neutral state wherein the first actuator does not position the supply and return members;
a second actuator to position the supply and return members into and out of their respective interrupt positions;
a controller that generates an override signal when the second actuator is actuated; and
an override device that responds to the override signal by placing the first actuator in the neutral state.

12. The assembly of claim 11 wherein the first actuator is a multi-state manual actuator.

13. The assembly of claim 12 wherein the second actuator is an electrical actuator.

14. A controller for a hospital bed, including:
a supply valve having an interrupt position interrupting a supply path providing fluid to a device for positioning the bed;
a return valve having an interrupt position interrupting a return path returning fluid from the positioning device;
a first actuator to position the supply and return valves, the first actuator having a supply state wherein the return valve is in the interrupt position, a return state wherein the supply valve is in the interrupt position, and a neutral state wherein the first actuator does not position the supply and return valves;
a second actuator to position the supply and return valves into and out of their respective interrupt positions, the second actuator causing the generation of an override signal when actuated; and
an override device that responds to the override signal by placing the first actuator in the neutral state.
15. The controller of claim 14 wherein the first actuator is a multi-state manual actuator.
16. The controller of claim 14 wherein the second actuator is an electrical actuator.
17. The controller of claim 14 wherein the override device includes a catch engager and a catch engager actuator to move the catch engager between an engaged and a disengaged position.
18. The controller of claim 14, further including a spring positioned to bias the first actuator in the neutral position, a first catch to lock the first actuator in the supply state, and a second catch to lock the first actuator in the return state.
19. The controller of claim 14, further including another supply valve and another return valve, respectively supplying and returning fluid to and from another device for positioning the bed.

REMARKS

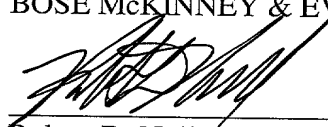
This Preliminary Amendment is being submitted as part of the above identified continuation application filed under 37 C.F.R. § 1.53(b).

With the entry of the foregoing amendments, the continuation application is believed to be in condition for allowance. Consideration of the claims leading to their allowance and passage of this continuation application to issuance is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees and credit any overpayment associated with this Preliminary Amendment to Bose McKinney & Evans LLP's Deposit Account No. 02-3223.

Respectfully submitted,

BOSE McKINNEY & EVANS LLP



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